

AUG 26 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re: Robert L. Payer Confirmation No: 2495
Serial No: 09/884,844 Group: 2826
Filed: June 19, 2001 Examiner: Erdem, Fazli
For: Hermetic Package with Internal
Ground Pads
Customer No.: 25263
Attorney 1066us
Docket No.

APPELLANT'S BRIEF

VIA FACSIMILE: 571-273-8300

Mail Stop Appeal Brief- Patents

Commissioner for Patents

P.O. Box 1450,

Alexandria, Virginia 22313-1450

08/29/2005 HBIZUNES 00000039 501547 09884844

01 FC:2252 225.00 DA

08/29/2005 HBIZUNES 00000039 501547 09884844

02 FC:2402 250.00 DA

Sir:

This is the Applicant's appeal from the final Office Action, mailed January 26, 2005 (Paper No. 01242005).

A two-month extension is requested for this brief.

Real Party in Interest

Axsun Technologies, Inc. is the real part of interest.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of Claims

Claims 1-9 are pending in this application. Claims 1-9 stand finally rejected pursuant to the outstanding final Office Action.

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Status of Amendments

All amendments have been entered. There were no post final amendments or proposed amendments.

Summary of Claimed Subject Matter

Fig. 1 from the application below shows the overall context of the invention. Specifically, it shows an optoelectronic hermetic package 100. This comprises a frame 110 that defines a hermetic boundary. This hermetic boundary is completed when a lid, not shown, is welded or otherwise attached to the top 116 of the sidewall 114 to seal the package 100.

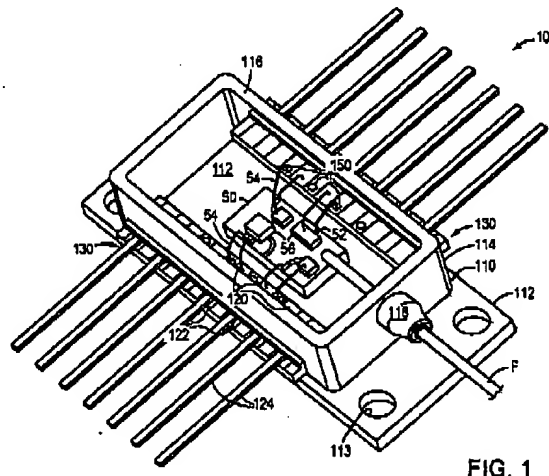


FIG. 1

This type of butterfly package 100 is very common in the packaging of optoelectronic devices.

This package design presented a problem to the inventor as he sought to produce optoelectronic devices with higher levels of integration. More active devices in the electronic package required concomitantly more electrical connections to those devices. Thus, at high levels of integration, the devices could become bond pad constrained—there were not enough bond pads to support the necessary electrical connections while maintaining wiring bonding rules such as not crossing wirebonds.

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The invention concerns the provision of an electrical feed through assembly 130 shown in Fig. 2 below. This assembly is provided with a combination of signal wire bond areas 120 and ground wire bond areas 150.

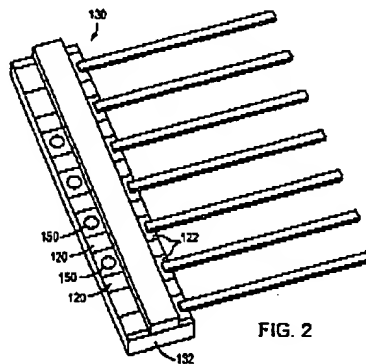


FIG. 2

As illustrated in incorporated Fig. 3 below, the electrical feedthrough assembly provides for the electrical interconnection of these ground wire bond areas 150 using a combination of plugs 152 and the frame 110 of the package. So, in effect, the number of leads 124 (see Fig. 1) is effectively increased by allowing multiple ground connections/ground bond pads to be supported by a single lead 124.

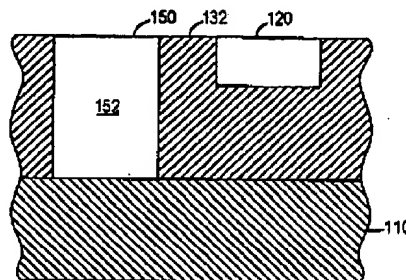


FIG. 3

Grounds of Rejection to be Reviewed on Appeal

Whether claims 1-9 are unpatentable over Bargar, *et al.* (5,222,170) in view of Kluitmans, *et al.* (5,065,226) and further in view of Wolf, *et al.* (6,414,835).

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Argument

Applicant respectfully believes that the present claimed invention of claim 1, for example, would not be obvious over the combination of the Bargar, Kluitmans, and Wolf patents.

The strongest argument in support of non-obviousness is the simple fact that none of the applied references shows or suggests "an electrical feed through assembly...[that has] ground wire bond areas...that are electrically connected to each other."

This feature is not shown in either the Bargar or Kluitmans patents.

Moreover, it is not shown in the Wolf patent, which was cited for showing this ground wire bond area feature. Specifically, the bonding pads 120 shown in, for example, Figs. 4 and 5 of the Wolf patent are signal wire bond areas that are not electrically connected to each other.

Possibly, the ground paths 118 of the Wolf patent were considered as being relevant to the claimed ground wire bond areas. Such an analogy, however, would be inappropriate since these ground paths 118 of the Wolf patent do not have wire bond areas. They are simply shielding structures for the capacitive connections provided by and accessed by the bond areas 120 as shown in Fig. 5 of the Wolf patent.

This interpretation on the part of the Applicant is supported by the following portion of the Wolf specification.

A further plurality (twenty in the depicted example) of ground paths 118 each comprising substrate ground paths 118 extending through all layers 52-60 spaced apart around the periphery of the co-fired metal-ceramic substrate 40. The ground paths 118 also comprise one or more ground trace, e.g. ground plane traces or layers 132, 134 and 136 shown in FIG. 5, extending peripherally along the substrate layer surfaces from the substrate ground paths 118 to the substrate edge 46. The ground trace 132 assists in making electrical contact with the ground solder joint 130 and with the substrate-ferrule braze joint 48. The ground traces 134 and 136 extend to a metallization layer 140 formed over the

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substrate edge 46. The number of substrate ground paths 118 substrate ground paths 118 formed in this manner is selected to provide a total ground via cross-section area that minimizes the inductance of the filtered feedthrough assembly 10 resulting in favorable insertion loss of EMI and unwanted signals.

See Wolf patent at column 6, beginning at line 66

From this paragraph, it is evident that the ground paths 118 are not connected to multiple ground wire bond areas, but are merely for shielding.

The final Office Action cites to column 20, lines 58-63 for the disclosure of "ground electrodes that are electrically connected to each other." The Wolf patent, however, has no column 20. And, in any event, the claim requires ground wire bond areas, not mere "electrodes" as argued in the Office Action.

Moreover, Applicants respectfully believe that one skilled in the art would not combine the references as asserted in the pending Office Action. The reasoning is that the Bargar and Kluitmans patents are each directed to optoelectronic modules, and show such modules. In this sense, they are relevant to the present claimed invention.

In contradistinction, the Wolf patent is directed to human, *in vivo*, bio-compatible, electrical devices and is not intended to not provide connections to optoelectronic devices. In fact, the Wolf capacitive electrical connections would generally not work with many opto electronic devices, as those semiconductor lasers shown in both the Kluitmans and Bargar patents, which often require low voltage, and high direct currents. In short, the Wolf patent does not concern optoelectronic hermetic packages as claimed and one skilled in the art would not be motivated to combine them as advanced in the pending Office Action.

Claim 2 is further distinguishable over the applied references. It requires "an array of leads extending from the electrical contact areas away from the frame. The Wolf assembly, however, does not have such leads.

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Claim 5 requires that at least some of the ground wire bond areas are located between two of the signal wire bond areas on the feedthrough assembly. Claim 6 describes that the ground wire bond areas are interdigitated with the wire bond areas. This is shown, for example, in Fig. 2 of the present invention showing the alternating ground and signal wire bond areas. This is not shown by any of the applied references. As noted previously, the Wolf patent does not show ground wire bond areas but simply shows ground structures that are not connected to any wire bond areas as claimed. None of the applied references shows or suggests interdigitation.

Claim 7 requires the use of conductive plugs that extend through the feedthrough assembly to the frame. The wire bond areas are located on top of the plugs. As noted previously, the ground structures in the Wolf patent do not have wire bonding areas.

Finally, claim 9 is believed to be further patentable since it shows conductive plugs that extend between a top of the feedthrough assembly and a bus through the assembly. The wire bond areas are located on top of these conductive plugs. The combination of wire bond areas and a connecting bus is not shown by the applied references.

For the foregoing reasons, Applicants believe that the pending rejections should be withdrawn, and that the present application should be passed to issue. Should any questions arise, please contact the undersigned.

Respectfully submitted,

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By 

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Date: August 26, 2005

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Claims Appendix

1. (previously presented) An optoelectronic hermetic package, comprising:
a frame defining a hermetic boundary; and
an electrical feedthrough assembly on the frame 1) providing electrical connections between signal wire bond areas within the hermetic boundary and electrical contact areas outside the hermetic boundary and 2) ground wire bond areas within the hermetic boundary that are electrically connected to each other.
2. (original) A package as claimed in claim 1, further comprising an array of leads extending from electrical contact areas away from the frame.
3. (original) A package as claimed in claim 2, wherein the leads extend laterally relative to the frame.
4. (previously presented) A package as claimed in claim 2, wherein the leads are pins that extend vertically relative to the frame.
5. (original) A package as claimed in claim 1, wherein at least some of the ground wire bond areas are located between two of the signal wire bond areas on the feedthrough assembly.
6. (original) A package as claimed in claim 1, wherein the ground wire bond areas are interdigitated with signal wire bond areas.
7. (original) A package as claimed in claim 1, further comprising conductive plugs extending between a top of the feedthrough assembly and the frame, the ground wire bond areas being located on a top of the conductive plugs.

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8. (original) A package as claimed in claim 1, wherein the assembly provides electrical connections between the ground wire bond areas and the frame.

9. (original) A package as claimed in claim 1, further comprising conductive plugs extending between a top of the feedthrough assembly and a bus through the assembly, the ground wire bond areas being located on a top of the conductive plugs.

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Evidence Appendix

None

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Related proceedings appendix

None

PTO/SB/21 (09-04)

Approved for use through 07/31/2006: OMB 0651-0031

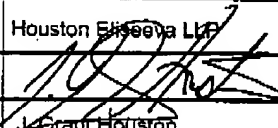
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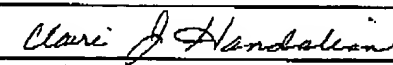
TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/884,844	RECEIVED CENTRAL FAX CENTER AUG 26 2005
	Filing Date	June 19, 2001	
	First Named Inventor	Robert L. Payer	
	Art Unit	2826	
	Examiner Name	Erdem, Fazli	
Total Number of Pages in This Submission	12	Attorney Docket Number	1066us

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Houston Eliseeva LLP		
Signature			
Printed name	J. Grant Houston		
Date	August 26, 2005	Reg. No.	35,900

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Effective on 12/09/2004. Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818). FEE TRANSMITTAL For FY 2005		Complete if Known Application Number 09/884,844 Filing Date June 19, 2001 First Named Inventor Robert L. Payer Examiner Name Erdem, Fazli Art Unit 2826 Attorney Docket No. 1066us	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		RECEIVED CENTRAL FAX CENTER AUG 26 2005	
TOTAL AMOUNT OF PAYMENT (\$) 475.00			

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____
☒ Deposit Account Deposit Account Number: 501547 Deposit Account Name: Axsun Technologies, Inc.
 For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)
☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee
☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180
Total Claims		
Extra Claims		
Fee (\$)		
Fee Paid (\$)		

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims Extra Claims Fee (\$)

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets Extra Sheets Number of each additional 50 or fraction thereof Fee (\$)

Other (e.g., late filing surcharge): Filing Brief in Support of Appeal (250) + Ext. for reply 2nd month (225) \$475.00

SUBMITTED BY		
Signature	Registration No. 35,900 (Attorney/Agent)	Telephone 781-863-9991
Name (Print/Type) J. Grant Houston		Date August 26, 2005

This collection of information is required by 37 CFR 1.138. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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